



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,877	11/14/2006	Gerhard Meyer	30882/SCG5205	6327

4743 7590 02/26/2009  
MARSHALL, GERSTEIN & BORUN LLP  
233 SOUTH WACKER DRIVE  
6300 SEARS TOWER  
CHICAGO, IL 60606-6357

EXAMINER
----------

ROBINSON, ELIZABETH A

ART UNIT	PAPER NUMBER
----------	--------------

1794

MAIL DATE	DELIVERY MODE
-----------	---------------

02/26/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/539,877	<b>Applicant(s)</b> MEYER ET AL.	
	<b>Examiner</b> Elizabeth Robinson	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 19-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 22-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6-15-2005, 12-8-2005</u> .                                    | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of Group I, claims 1-18 and 22-24 in the reply filed on November 19, 2008 is acknowledged.

Claims 19-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on November 19, 2008.

### ***Specification***

The use of the trademarks LAPONITE® and TEGOTENS® has been noted in this application. They should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 10 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 10 adds the limitation "silicon" to the high-melting oxide. It appears from the specification (Pages 16-17) that the high melting oxides are not silicon oxides, but oxides of other metals. Claim 11 depends from claim 10 and thus is also rendered indefinite.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-18 and 22-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Regarding claim 1, it is unclear what is meant by the phrase "hybrid film system". In order to further prosecution, the Examiner is interpreting this to mean any film system that comprises more than one type of material. All other claims depend from claim 1 and thus are also rendered indefinite.

The term "high elasticity" in claim 2 is a relative term which renders the claim indefinite. The term "high elasticity" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in

Art Unit: 1794

the art would not be reasonably apprised of the scope of the invention. There is no indication of the degree of elasticity that is required to meet this claim limitation.

The term "high-melting" in claims 10 and 11 is a relative term which renders the claims indefinite. The term "high-melting" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. There is no indication of a temperature that is considered to be a high-melting temperature. Further, it appears that the "high-melting" oxides referred to in the specification, pages 16-17, are other metal oxides that are present in a layered silicate, not a silicon oxide with a higher melting temperature.

Claim 12 contains the trademark/trade name LAPONITE®. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a layered silicate and, accordingly, the identification/description is indefinite.

Claims 14-16 use the acronyms MTEOS, TEOS, and GTPS. These claims would be clearer if the acronym was defined in the claims.

Claim 17 contains the trademark/trade name TEGOTENS®. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a surfactant and, accordingly, the identification/description is indefinite.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 17 recites the

Art Unit: 1794

broad recitation surfactant, and the claim also recites TEGOTENS® which is the narrower statement of the range/limitation.

Regarding claims 13-17 and 22-24, these claims all state percentages of components, but do not state the basis on which these percentages are calculated (mass, volume, etc.).

### **Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1, 3-10 and 18 rejected under 35 U.S.C. 102(b) as being anticipated by De Boel et al. (US 4,190,698).**

Regarding claim 1, De Boel (Column 1, lines 13-23) teaches a light-transmitting (transparent) fire screening panel comprising a sheet of glass (film) and a layer of intumescent material. The intumescent layer (Example 1, Column 4) comprises sodium silicate (inorganic material) and glycerine (organic material) and thus, is a hybrid layer. A second sheet of glass can be applied to the film (Column 4, lines 29-34) and thus, the film is integrated into a construction element.

**Comment [d1]:** Make sure that your spacing between sections is even. Please double space between rejections.

I think that you need to clearly deal with the term Hybrid... if you take the position that is any two materials it is fine, but it does not go to the core of their invention which is an organic / inorganic composite or mixture. I think at least one rejection using an inorganic / organic combo is needed.

**Comment [ear2]:** All of the intumescent layers had organic/inorganic components. I have added text to make this clearer.

Regarding claim 3, De Boel (Example II, Column 5) teaches that film can then be adhered to the second glass sheet via a polyvinyl butyral layer.

Regarding claim 4, the intumescent material (Column 1, lines 13-23) is a silicate and thus, is siliceous.

Regarding claim 5, the layers 1 and 7 of Figure 2, can be considered a layer of the composition. The material of the intumescent part of the layer (1) is different than the adhesive portion of the layer (7).

Regarding claim 6, the glass layers and the intumescent layer are composed of different materials.

Regarding claim 7, the intumescent layer is fire-retardant.

Regarding claim 8, the film of Example II comprises three layers.

Regarding claim 9, the intumescent layer of Example I, Column 4 has a weight ratio of  $\text{SiO}_2$  to  $\text{Na}_2\text{O}$  of 3.3. This is a mole ratio of 3.4.

Regarding claim 10, the intumescent layer comprises a silicon oxide.

Regarding claim 18, the film is a transparent sheet with glass layers and can be considered to be glazing.

**Claims 1, 6-8, 10-12 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by von Bonin (US 5,182,049).**

Regarding claims 1, 6, 8 and 18, von Bonin (Column 4, lines 32-44) teaches clear gels that are suitable for use as an interlayer in fire prevention glazing. The gel is formed from an intumescent media (Column 1, lines 42-52). The gel can comprise



Art Unit: 1794

organic amines and inorganic silicates (Column 2, lines 37-68) and thus, is a hybrid layer.

Regarding claim 7, von Bonin (Column 4, lines 45-48) teaches that the material is fire-extinguishing.

Regarding claims 10-12, von Bonin (Column 2, lines 37-46) teaches that the intumescent media can also comprise swellable mica. Mica is a layered silicate that can comprise magnesium. LAPONITE® is a magnesium layer silicate (Page 17, instant specification).

**Claims 1, 3, 4, 6-10, 13-16, 18 and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Zernial et al. (EP 1044801).**

Regarding claims 1, 6-8 and 18, Zernial (Paragraph 1) teaches a fire protection glass comprising at least three glass panes and at least two fire retardant layers of aqueous alkali silicate (intumescent material). The intumescent layer (Example 1, Paragraph 27) comprises sodium silicate (inorganic material) and glycerine (organic material) and thus, is a hybrid layer.

Regarding claim 3, the intumescent layer adheres the two glass layers together (Example 1).

Regarding claim 4, the intumescent material is a silicate and thus, is siliceous.

Regarding claim 9, Zernial (Paragraph 13) teaches that the intumescent layer has a weight ratio of SiO<sub>2</sub> to Na<sub>2</sub>O from 2.7 to 3.5. This is a mole ratio of 2.8 to 3.6.

Regarding claim 10, the intumescent layer comprises a silicon oxide.

Regarding claims 13 and 22-24, Zernial (Paragraph 13) teaches that the intumescent layer preferably has a residual moisture level of 25% and a glycerine content of 5 to 15 weight percent.

Regarding claims 14-16, the intumescent layer comprises 0% MTEOS, 0% TEOS and 0% GTPS.

**Claims 1-8, 10, 14-16 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Bond et al. (WO 03/024682).**

Regarding claims 1-3, 8 and 18, Bond (Pages 1 and 2 teaches a clear flexible film comprising sodium silicate waterglass (intumescent material). The intumescent layer (Page 2) further comprises glycerol (organic material) and thus, is a hybrid layer. The interlayer is then adhered to two layers of float glass via a glycerol adhesive layer to form a glazing (Page 7).

Regarding claim 4, the intumescent material is a silicate and thus, is siliceous.

Regarding claim 5, the interlayer wetted with glycerol can be considered a layer. The surface would have a greater glycerol content than the rest of the interlayer.

Regarding claim 6, the glass layers and the intumescent layer are composed of different materials.

Regarding claim 7, the intumescent layer is fire retardant.

Regarding claim 10, the intumescent layer comprises silicon oxide.

Regarding claims 14-16, the intumescent layer has a water content of 25 % (Page 7). The intumescent layer comprises 0% MTEOS, 0% TEOS and 0% GTPS.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 13, 17 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bond et al. (WO 03/0246821).**

As stated above, Bond teaches a fire protection film with a residual water content of 25% that meets the limitations of claim 1.

Regarding claims 13 and 22-24, Bond (Page 2) teaches that the waterglass solution comprises from 6 to 20 % by weight of glycerol (glycerin). This compound is present to improve the flexibility of the dried interlayer, without having a deleterious effect on the properties of the dried interlayer.

Bond does not teach what the percentage of this material is at a residual moisture level of 25%.

The film either meets the glycerin percentage limitations of the instant claims or it would be obvious to one of ordinary skill in the art to vary the amount of glycerin in the composition, in order to obtain a desired degree of flexibility for the interlayer.

Regarding claim 17, Bond (Pages 3-4) teaches that the waterglass solution can comprise a surfactant, preferably an alkyl glucoside surfactant. The quantity of the surfactant used will be sufficient to achieve a desired degree of wetting on the backing material and is determined empirically.

Art Unit: 1794

Bond does not teach the percentage of surfactant when the film is at a residual moisture content of 25%.

However, the film either meets the surfactant weight percentage of the instant claim or it would be obvious to one of ordinary skill in the art to vary the amount of surfactant, in order to achieve a desired degree of wetting on the backing material, as taught by Bond.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Robinson whose telephone number is (571)272-7129. The examiner can normally be reached on Monday- Friday 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. R./  
Elizabeth Robinson  
Examiner, Art Unit 1794

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art  
Unit 1794

February 20, 2009